



Department of Energy

Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221
January 16, 2003

 **ENTERED**



Mr. Steve Zappe, Project Leader
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Bldg. 1
Santa Fe, New Mexico 87505-6303

RE: Transmittal of the Certification Audit Report for the Rocky Flats Environmental Technology Site (A-03-02)

Dear Mr. Zappe:

This letter transmits the Rocky Flats Environmental Technology Site Audit report for the processes performed to characterize and certify waste as required by Section II.C.2.c of the WIPP Hazardous Waste Facility Permit. The report contains the results of the audit performed for the characterization and certification of a new Visual Examination (VE) facility to confirm the real-time radiography, and Polychlorinated Biphenyl (PCB) analysis. The audit was conducted November 19-20, 2002.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Please contact the Carlsbad Field Office Quality Assurance Manager, Ava L. Holland, at (505) 234-7423 should you have any questions concerning this audit report.

Sincerely,

Dr. Ines R. Triay
Manager

Enclosure

cc: w/enclosure
P. Roush, WTS
C. Walker, TechLaw
CBFO QA File
CBFO M&RC



Mr. Steve Zappe

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January 16, 2003

cc: w/o enclosure

T. Harms, DOE-HQ *ED

A. Holland, CBFO *ED

D. Miehl, CBFO *ED

R. Knerr, CBFO *ED

K. Watson, CBFO *ED

J. Schneider, RFFO *ED

L. Xuan, RFFO *ED

R. Ballenger, RFETS *ED

C. Ferrea, RFETS *ED

G. O'Leary, RFETS *ED

J. Kielling, NMED *ED

J. Bearzi, NMED *ED

B. Walker, EEG *ED

S. Warren, WTS *ED

L. Greene, WTS *ED

T. Bowden, CTAC *ED

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

FINAL AUDIT REPORT

OF THE

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE

GOLDEN, COLORADO

AUDIT NUMBER A-03-02

November 19 – 20, 2002

FINAL AUDIT REPORT OF ADDITIONAL CHARACTERIZATION
ACTIVITIES IN ACCORDANCE WITH
THE HAZARDOUS WASTE FACILITY PERMIT

New Visual Examination to Confirm Real-Time Radiography Facility



Prepared By: Charles L. Riggs

Charles L. Riggs, CTAC
Audit Team Leader

Date: 1/16/03

Approved By: Ava L. Holland

Ava L. Holland, CBFO
Quality Assurance Manager

Date: 1/16/03

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) Audit A-03-02 was conducted to evaluate the adequacy, implementation, and effectiveness of Rocky Flats Environmental Technology Site (RFETS) transuranic (TRU) waste characterization activities for Summary Category Groups S5000 debris waste and S3000 solid waste, relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP) and the CBFO *Quality Assurance Program Document* (QAPD). A set of B6 checklists used for assessing compliance of HWFP-related activities is included in Attachment 4.

The audit scope included Summary Category Group S5000 and S3000 wastes. The audit also evaluated a new visual examination (VE) facility (in Building 371) to confirm real-time radiography (RTR) and polychlorinated biphenyl (PCB) analysis. The new VE facility will be used to characterize retrievably stored S5000 debris waste and S3000 homogeneous solid waste.

The audit was conducted at RFETS on November 19 - 20, 2002. The audit team concluded that the overall adequacy of the RFETS technical and quality assurance (QA) programs, as applicable to audited activities, was satisfactory in meeting requirements. The audit team also concluded that the defined QA and technical programs for these activities (except PCB analysis) were being implemented in accordance with the RFETS *Quality Assurance Project Plan* (QAPjP) and the applicable implementing procedures, and that the processes were effective. The audit team found that the adequacy, implementation, and effectiveness of the PCB analysis activities were indeterminate. PCB analysis activities may be included in the scope of a future audit.

The audit team identified one condition adverse to quality (CAQ) associated with two-liter cans that were opened but not emptied and sorted for prohibited items, resulting in the issuance of CBFO corrective action report (CAR) 03-009. No deficiencies requiring remedial corrective actions were found during the course of the audit. No Observations resulted from the audit. Two Recommendations were presented for RFETS management consideration.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the RFETS TRU waste characterization processes for a new VE facility in Building 371 to confirm RTR for pipe overpack components (POCs) and PCB analysis. The new VE facility will be used to characterize retrievably stored S5000 debris waste and S3000 homogeneous solid waste.

The RFETS waste characterization processes were evaluated relative to the requirements contained in the HWFP Waste Analysis Plan (WAP), Attachments B

through B6, as applicable. Compliance was documented by completing the HWFP Attachment B6 checklists for the applicable RFETS activities.

The following RFETS program elements were evaluated in accordance with the HWFP.

Technical

Building 371 Visual Examination to Confirm Radiography (VE)
Project-Level Verification and Validation (V&V)

Quality Assurance

The following QA elements were only evaluated to the extent needed to support the above technical elements:

Control of nonconforming items
Personnel qualification and training
Documents and records

The evaluation of RFETS TRU waste activities and documents was based on current revisions of the following documents:

Waste Isolation Pilot Plant Hazardous Waste Facility Permit, July 1, 2002

Quality Assurance Program Document, CAO-94-1012, Rev. 3, November 1999

Rocky Flats Environmental Technology Site TRU Waste Characterization Program Quality Assurance Project Plan, 95-QAPJP-0050, Rev. 6, March 11, 2002

RFETS Transuranic (TRU) Waste Management Manual, 1-MAN-008-WM-001, Rev. 5, April 19, 2002

Related RFETS technical and QA implementing procedures

2.2 Purpose

Audit A-03-02 was conducted to assess the level of compliance of RFETS waste characterization activities associated with the new VE facility in Building 371, and PCB analysis.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Charlie Riggs	Audit Team Leader, CTAC
Annabelle Axinn	Auditor, CTAC
Karen Gaydosh	Technical Specialist, CTAC
William (BJ) Verret	Technical Specialist, CTAC

OBSERVER

Steve Holmes	New Mexico Environment Department (NMED)
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4.0 AUDIT PARTICIPANTS

RFETS individuals contacted during the audit are identified in Attachments 1 and 2. A pre-audit meeting was held at RFETS Building 460 on November 19, 2002. A daily meeting was held with RFETS management and staff to discuss the issues and potential deficiencies of the previous day. The audit concluded with a post-audit meeting held at RFETS Building 460 on November 20, 2002.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy and Implementation

The audit team concluded that the applicable RFETS TRU waste characterization activities for the new VE facility, as described in the associated RFETS implementing procedures (Enclosure 1), satisfactorily meet the requirements contained in the HWFP. The audit team found that the adequacy, implementation, and effectiveness of the PCB analysis activities were indeterminate. PCB analysis activities may be included in the scope of a future audit. Details of audit activities, including specific objective evidence reviewed for those activities approved by CBFO as a result of this audit, are described below and in the attached supplemental B6 checklists. The B6 checklists identify the RFETS program documents and procedures where WAP requirements are met and list the objective evidence used to evaluate the implementation. Enclosure 2 contains examples of the objective evidence reviewed during the audit.

5.2 Technical Activities

Each technical area audited is discussed in detail in the following sections. The method used to select objective evidence is discussed, the objective evidence used to assess compliance with the WAP is cited briefly (and in detail on the checklist), and the results of the assessments are provided.

The audit team identified one condition adverse to quality (CAQ) associated with two-liter cans that were opened but not emptied and sorted for prohibited items, resulting in the issuance of CBFO corrective action report (CAR) 03-009. No deficiencies requiring remedial corrective actions were found during the course of the audit. No Observations resulted from the audit. Two Recommendations were presented for RFETS management consideration.

5.2.1 Table B6-1 WAP Checklist

This audit was performed to assess RFETS' ability to characterize S5000 debris waste and S3000 solid wastes within a new VE facility (in Building 371) to confirm RTR of POCs, project-level V&V, and PCB analysis. RFETS has not changed the project-level data V&V, acceptable knowledge, solids sampling and analysis, or headspace gas processes since Audit A-02-07, the last recertification audit. RFETS has not changed the RTR processes since Audit A-02-19. Therefore, there is no supplemental information to add to the B6-1 checklist. RFETS continues to satisfactorily meet the

requirements for project-level data V&V, acceptable knowledge, solids sampling and analysis, headspace gas, and RTR.

5.2.2 Table B6-2 Solids and Soils/Gravel Sampling Checklist

The audit team determined that RFETS has been unable to satisfactorily perform PCB analytical operations due to the high radioactivity counts encountered in the organic extracts. No final batch data package has been prepared. PCB analysis may be included in the scope of a future audit.

The adequacy, implementation, and effectiveness of the PCB analysis activities were deemed to be indeterminate.

5.2.3 Table B6-3 Acceptable Knowledge Checklist

This audit was performed to assess RFETS' ability to characterize S5000 debris waste and S3000 solid wastes within a new VE facility (in Building 371) to confirm RTR of POCs, project-level V&V, and PCB analysis. RFETS has not changed the project-level data V&V, acceptable knowledge, solids sampling and analysis, or headspace gas processes since Audit A-02-07, the last recertification audit. RFETS has not changed the RTR processes since Audit A-02-19. Therefore, there is no supplemental information to add to the B6-3 checklist. RFETS continues to satisfactorily meet the requirements for project-level data V&V, acceptable knowledge, solids sampling and analysis, headspace gas, and RTR.

5.2.4 Table B6-4 Headspace Gas Checklist

This audit was performed to assess RFETS' ability to characterize S5000 debris waste and S3000 solid wastes within a new VE facility (in Building 371) to confirm RTR of POCs, project-level V&V, and PCB analysis. RFETS has not changed the project-level data V&V, acceptable knowledge, solids sampling and analysis, or headspace gas processes since Audit A-02-07, the last recertification audit. RFETS has not changed the RTR processes since Audit A-02-19. Therefore, there is no supplemental information to add to the B6-4 checklist. RFETS continues to satisfactorily meet the requirements for project-level data V&V, acceptable knowledge, solids sampling and analysis, headspace gas, and RTR.

5.2.5 B6-5 Radiography Checklist

This audit was performed to assess RFETS' ability to characterize S5000 debris waste and S3000 solid wastes within a new VE facility (in Building 371) to confirm RTR of POCs, project-level V&V, and PCB analysis. RFETS has not changed the project-level data V&V, acceptable knowledge, solids sampling and analysis, or headspace gas processes since Audit A-02-07, the last recertification audit. RFETS has not changed the RTR processes since Audit A-02-19. Therefore, there is no supplemental information to add to the B6-5 checklist. RFETS continues to satisfactorily meet the

requirements for project-level data V&V, acceptable knowledge, solids sampling and analysis, headspace gas, and RTR.

5.2.6 B6-6 Visual Examination (VE) Checklist

The audit team reviewed the batch data report and associated videotape for batch VE-2003-003. This batch was for container numbers DC2296, DC0033, DC0031, DB9828, DB8374, and DB4121, the only containers processed to date in the new VE facility in Building 371. One concern was identified during review of the batch data report and associated videotape pertaining to two-liter cans that were opened but not emptied and sorted for prohibited items, resulting in the issuance of CBFO corrective action report (CAR) 03-009.

Training records for the closure personnel (VE operators), VE experts, and independent technical reviewers were examined during the audit. The training was in compliance with the HWFP requirements for VE.

Overall, the VE processes were determined to be adequate, satisfactorily implemented, and effective.

6.0 SUMMARY OF DEFICIENCIES

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQ) and document them on CARs.

Condition Adverse to Quality (CAQ) – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies.

Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, regulatory compliance demonstration, or the effective implementation of the QA program.

One WAP-related CAR was issued as a result of the audit and is described in the following section.

6.1.1 CBFO CAR 03-009

Two-liter cans containing sand, slag, and crucibles were opened, but were not emptied and sorted to determine if prohibited items were present, as required by procedures.

RFETS procedure PRO-1608-VECRTR-371, *RTR Visual Examination Confirmation, Building 371*, was revised to accurately define the level of waste segregation or sorting required for visual examination to confirm RTR. Training was conducted on the

changes, and VE batch data report VE-2003-003 was modified to document the decision not to sort through the waste contents of the inner can.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) evaluate the CAQs to determine if they are significant, using the following definitions. Once a determination is made that a CAQ is not significant, the audit team member, in conjunction with the ATL, determines if the CAQ is an isolated case requiring only remedial action and, therefore, can be corrected during the audit (CDA). Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the ATL categorizes the condition as a CDA.

Condition Adverse to Quality (CAQ) – An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, nonconformances, and technical inadequacies. A significant condition adverse to quality is one which, if uncorrected, could have a serious effect on safety, operability, waste isolation, TRU waste site certification, regulatory compliance demonstration, or effective implementation of the QA program.

Corrected During the Audit (CDA) – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence, and for which correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), or one or two individuals who have not completed a reading assignment.

No WAP-related conditions adverse to quality were identified during the audit, therefore no CDAs resulted from the audit.

7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

7.1 Observations

Observations document marginally acceptable conditions that, if not controlled, might later escalate into deficiencies.

No WAP-related observations were presented as a result of the audit.

7.2 Recommendations

The following WAP-related recommendations were provided to RFETS management during the audit.

Recommendation 1

It is recommended that a full explanation of VE activities be recorded on the VE Log (e.g., Batch Data Report VE-2003, Drum DB8374, Can Z81552). For example, the videotape of the VE activities for Drum DB8374 showed that there were three cans inside each other. However, only two were put in the output container. This was not recorded on the VE Log, nor was the actual resulting weight recorded.

Recommendation 2

It is recommended that a statement be made on the videotape that the drum label is being used as the test pattern. The procedure requires that a test pattern be recorded and checked. The batch data report indicates the check was done and was satisfactory; however, there is no mention of the test being done on the audio portion of the videotape.

8.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Personnel Contacted During the Audit by Area
Attachment 3: Table of Audited RFETS Implementing Procedures
Attachment 4: WIPP Hazardous Waste Facility Permit B6 Checklist

9.0 LIST OF ENCLOSURES

Enclosure 1: RFETS Audited Implementing Procedures
Enclosure 2: Objective Evidence and Content Map

PERSONNEL CONTACTED DURING THE AUDIT

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-02				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Ballenger, R. J.	KH; TRU Program	X	X	X
Barber, Dave	ANL W	X	X	
Brugh, Mark	NSS-B559; Manager, Labs	X	X	X
Edmiston, Douglas	LATA; GGT Manager	X	X	
Eschenbaum, Roberta	TRU Program	X		
Ferrera, Carol	KH TWCP QAO	X	X	X
Fisher, Doug	371 Waste Operations; 371 Technical Team Lead		X	
Grady, Frank	RMRS/TRU Waste Projects; TRU Project Engineer	X	X	X
Guthrie, David E.	QA-B559; LPQAO		X	X
Hubbard, Laura	Wastren, TRU V&V			X
Kirschenmann, Harley	MSQA, Manager	X		
Leifer, John	TRU Projects; Scientist		X	
McCarthy, Ed	MS; B44 Operations	X	X	
Miranda, Sue	MS; Technical Support	X	X	
O'Leary, Jerry	KH/TRU Waste Project Manager	X		X
Pigeon, Paul	Material Stewardship; TWCP Training Officer	X		
Podolsky, Stewart	TSC; QA Lead B559		X	X
Rivera, Mike	TRU Program	X	X	
Robledo, Ron	LATA; TRU Programs	X	X	
Springer, Joe	RFFO; DOE Projects	X		
Timbers, Peter J.	LATA GGT; Chemist/GGT SME	X	X	

RFETS PERSONNEL CONTACTED DURING AUDIT A-03-02				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST- AUDIT MEETING
Tressell, John	MSQA; Alt. PQAQ	X		
Winkler, Paul	TSC; Chemist		X	
Xuan, Lam	DOE/RFFO/ERWM; WIPP Coordinator	X		X

Personnel Contacted During Audit A-03-02 by Area

Verification and Validation	Ron Robledo Roger Ballenger
Visual Verification	Ron Robledo Sue Miranda Roger Ballenger Paul Pigeon

Table of Audited RFETS Documents

RFETS DOCUMENTS AUDITED FOR A-03-02		
No.	Procedure Number	Title
1.	PRO-1608-VECRTR-371, R0	RTR Visual Examination Confirmation, Building 371
2.	PRO-940-WIPP-010, R15	WIPP TRU Waste Characterization Project Level Data Review and Reporting
3.	95-QAPjP-0050, R6	TRU Waste Characterization Program Quality Assurance Project Plan (TWCP QAPjP)